

IN THE DRAWINGS:

Please replace original Figure 1 with an amended Figure 1 in which element 2d has been removed.

Attachments:

Replacement Figure 1

REMARKS

The Office Action dated May 29, 2007 has been received and carefully noted. The above amendments to the Drawings and the Claims, and the following remarks, are submitted as a full and complete response thereto.

Following the present amendment, claims 1 through 6 are pending in the subject application, including independent claims 1 and 4. Specifically, claims 1 through 4 are currently amended and new claims 5 and 6 are added. As described in greater detail below, Applicants herein address all grounds for rejection/objection through this response, and the pending claims 1 through 6 are in condition for examination. Reconsideration and allowance thereof is respectfully requested.

OBJECTION TO THE DRAWINGS UNDER 37 CFR §1.84

The Office Action in at page 2 objected to the drawings as allegedly failing to comply with 37 C.F.R. §1.84(p)(5) because the drawings include the reference character “2d”, which was not mentioned in the description. This objection is now moot in view of the amendment to Figure 1.

In response to this objection, Applicants herein amend Figure 1 to remove reference character “2d” because the specification does not appear to provide a description for reference character “2d.” It is believed that no new matter is introduced

through this amendment, which makes the objection moot. Applicants urge that the present application now in condition for examination and allowance.

OBJECTION TO THE CLAIMS/CLAIM REJECTIONS UNDER 35 U.S.C. §101

The Office Action in at page 3 objected to claim 4 because the phrase “the restriction valve” allegedly lacks antecedent basis. The Office Action further rejected claim 4 under 35 U.S.C. §101 as allegedly directed to a method which does not produce a useful, concrete, and tangible result, e.g. the claim is directed to non-statutory subject matter. The rejection and objection to claim 4 are now mute in view of the amendments contained herein.

In response to claim objection and rejection of claim 4, Applicants herein amend claim 4 to recite “a restriction valve” and to recite claim limitations disclosing the steps for the method of measuring the air intake amount of the internal combustion engine. It is believed that now new matter is introduced through this amendment. Applicants urge that the present application is now in condition for examination and allowance.

REJECTIONS UNDER 35 U.S.C. §103(a)

The Office Action in at pages 3-4 rejects claims 1 through 4 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over U.S. Patent Publication No. 2004/0003659 of Kato, et. al. (the “Kato” reference). Applicants respectfully traverse this rejection because the Office Action fails to establish a prima facie case of

obviousness since Kato does not appear to disclose or suggest every claim feature recited in claims 1-4.

Following the present amendment, claim 1 recites an air intake device of an internal combustion engine. The engine includes a restriction valve provided in an air intake path of the internal combustion engine and an air flow rate sensor. The air flow rate sensor is provided in the air intake path and is disposed on the downstream side of the restriction valve for measuring the flow amount of air suctioned into the air intake path. Additionally, the air flow rate sensor includes an air flow path which is formed linearly along the axis thereof and which is provided so that the axis thereof is inclined with respect to the axis of the air intake path, and a sensor element provided in the air flow path and disposed on the axis of the air intake path.

Following the present amendment, claim 4 recites a related method of measuring air intake amount of an internal combustion engine. The method includes suctioning air into an air intake path of the internal combustion engine and measuring the amount of the suctioned air into the air intake path by using an air flow rate sensor provided in the air intake path and disposed on the downstream side of a restriction valve. The air flow rate sensor includes an air flow path which is formed linearly along the axis thereof and which is provided so that the axis thereof is inclined with respect to the axis of the air intake path. The air flow rate sensor further includes a sensor element provided in the air flow path and disposed on the axis of the air intake path.

Applicants have carefully reviewed Kato and respectfully submit that Kato neither teaches nor suggests the currently recited embodiments of claims 1 through 6. As described in its abstract, Kato relates to:

In a gas-flow measuring instrument for measuring a gas flow in an intake gas passage for sucking gas, an abnormal output, deterioration per hour, stain, and breakage of a flow measuring element caused by fluid and foreign materials contained in intake gas are reduced. A gas-flow measuring instrument disposed in an intake gas passage for sucking gas for measuring a gas flow includes a bypass passage for bringing gas flowing along the intake gas passage, a bypass passage inlet opened to the upstream side of a main stream direction of gas in the intake gas passage, and a flow measuring element disposed in the bypass passage.

Accordingly, Kato also appears to disclose a gas-flow measuring instrument providing a bypass passage capable of isolating water splashes contained in gas, which cause damage such as deterioration per hour, output variations, and breakage to a flow measuring element utilizing inertial forces of the splashes. The configurations of the bypass passage are also capable of holding a sufficient gaseous body flow in a portion where the flow measuring element is arranged, for example, as described at paragraph 21 of page 1.

In view of the above-described aspects of Kato, Applicants urge that Kato does not teach every limitation of the disclosed embodiments, and aspects of the subject application may be distinguished from the disclosure of Kato. To further clarify these differences and to expedite prosecution, Applicants herein amend claim 1 and note that Kato does not teach or suggest the claimed embodiment of amended claim 1. For example, Kato does not disclose or suggest at least (1) a restriction valve configured in an

air intake path of the internal combustion engine; and (2) an air flow rate sensor configured to measure an amount of air suctioned into the air intake path and configured in the air intake path on a downstream side of the restriction valve.

Applicants strongly disagree with the finding in the Office Action that Kato discloses the restriction valve, indicating that such a valve, *i.e.* a throttle valve, would be inherently provided in an air intake path of an internal combustion engine (See page 4 of the Office Action). In particular, the Office Action fails to substantiate its obviousness rejection with support, *e.g.* a citation in the disclosure, from Kato disclosing a restriction valve, or to provide extrinsic evidence to support its inherency argument to demonstrate that the missing restriction valve is necessarily present in the air intake path of the internal combustion engine disclosed in Kato, such that one of ordinary skill in the art at the time the invention was made would have recognized such an inherency.

To rely upon the theory of inherency, the Office Action must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the prior art. *Ex parte Tanksley*, 37 USPQ2d 1382, 1385 (Bd. Pat. App. & Int’f 1994). Further, MPEP §2112 states that “To establish inherency, the extrinsic evidence, ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill in the art.’” Citing to *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d, 1949, 1950-51 (Fed. Cir. 1999) (citations omitted).

Applicants note that the Office Action fails to provide a basis in fact and/or technical reasoning to reasonably support the determination that the restriction valve is an inherent characteristic that necessarily flows from the teachings of Kato. Therefore, the Office Action fails to meet its burden of illustrating that the restriction valve is inherently in the air intake path of an internal combustion engine of Kato.

For at least this reason, Kato does not teach or suggest at least this recited element of claim 1, and therefore, the rejection of claim 1 in view of Kato is improper and should be withdrawn.

Continuing with claim 1, Applicants further note that Kato does not disclose or suggest at least “an air flow rate sensor configured *to measure an amount of air* suctioned into the air intake path” (*emphasis added*) as recited in amended claim 1. Rather, Kato discloses heating resistor 1, temperature sensing resistor 2, and temperature sensor 3 arranged in the gas-flow measuring instrument to measure a temperature of the gas flowing through bypass passage 4 (Page 1, paragraph [0023]). Consequently, Kato does not appear to disclose or suggest the aforementioned claim feature recited in amended claim 1.

Continuing with claim 1, Applicants note that the Office Action conceded that Kato also does not does not disclose or suggest “an air flow rate sensor...configured in the air intake path on a downstream side of the restriction valve” as recited in amended claim 1. However, the Office Action concludes that the aforementioned claim limitation would have been obvious to “accurately measure the rate of air flow entering the engine

since the air flow rate sensor would be placed after the restriction valve.” (See Office Action on pages 4 and 5). The Office Action presents a conclusory statement without substantiating the conclusion with support from Kato, or taking Official Notice of such a conclusion.

Official Notice unsupported by documentary evidence should only be taken by the Examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the Examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). The Office Action's conclusory statement fails to be capable of such instant and unquestionable demonstration as to defy dispute that one of ordinary skill in the art would have found it obvious for Kato to have "an air flow rate sensor...configured in the air intake path on a downstream side of the restriction valve." Hence, the Office Action fails to satisfy its burden with respect to taking Official Notice.

For at least this reason, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1. In particular, Kato does not teach or suggest every recited elements of the present application as embodied in claim 1, and these recited features are non-obvious, despite the claims contained in the Office Action. Consequently, the rejection of claim 1 under 35 USC §103(a) is improper and should be

withdrawn. Reconsideration and allowance of claim 1 in view of the present amendment and remarks is respectfully requested.

On similar grounds, dependent claims 2 through 3 and 5 through 6 should likewise be allowable as depending from allowable amended claim 1. Reconsideration and allowance thereof is respectfully requested.

Applicants likewise amend independent claim 4 to recite similar features as those recited in independent claim 1. Because independent claim 4 includes similar limitations, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claim 4, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 4.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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